

## Original Research

# A study of demographic profile and menstrual morbidities among adolescent female patients visiting a tertiary care center

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## ABSTRACT

**Aim:** (1) To study the demographic profile, prevalence and type of menstrual morbidities among 13-19 year adolescent females attending gynecology outpatient department (OPD) at a tertiary care government general hospital in an urban area. (2) To study the awareness on physical changes and menstruation in adolescent girls in the urban area. (3) To assess their knowledge on contraceptive methods. (4) To study hygiene practices followed during menstruation. (5) To Treat the patients and suggest suitable recommendations based on study findings, for the future. **Background:** The Latin word "Adolescere" means to grow to maturity. One 5<sup>th</sup> of the world population is between 10 and 19 years old and 85% of them live in developing countries. There are very few studies on prevalence and pattern of gynecological health morbidities among late adolescent female patients. **Materials and Methods:** It is a Prospective Observational Clinical Study in a Tertiary care Centre and Teaching Institute in Urban India. Variables observed were socio-demography, menstrual morbidities, and knowledge about contraception, in study patients. Chi-square test of significance was applied where relevant. **Results:** Of 120, maximum patients were unmarried from low socioeconomic, large (more than 4) family. The literacy rate was 70%. Of 120 patients, maximum (34%) attained menarche at 12 years, 62% had regular cycles and most of them used homemade cloth for hygiene during menses. The most common menstrual morbidity was dysmenorrhea (73%). The most common premenstrual symptom was pain in the abdomen. Thirty-four percent patients had moderate to severe anemia. 40% girls had some knowledge about contraception and most of them acquired it from Television. The most known method of contraception was OC pills and all patients with the knowledge felt it is available at all hospitals and chemists. **Conclusion:** Adolescent Reproductive and Sexual Health OPD services are needed at all women care centers as these group of patients need special attention for their complaints and focused care and counseling of these young patients would be a great investment for future health of them and their families and the society and nation as a large.

**Keywords:** Adolescent, contraception, demographic, morbidities, menstruation

## INTRODUCTION

The term adolescence is derived from the Latin word "Adolescere" meaning to grow to maturity. Adolescence has been defined by World Health Organization (WHO) as, "Critical period of transition from childhood to adulthood and progression from appearance of secondary sexual characters to sexual and reproductive maturity, and development of adult mental process."<sup>1</sup>

Most of the authors consider age of adolescence as 10-19 years and this has been further classified into three stages namely

early adolescence (9-13 years), mid-adolescence (14-15 years), and late adolescence (16-19 years).<sup>2</sup>

One-fifth of the world population is between 10 and 19 years old and 85% of them live in developing countries. Adolescents constitute 22.8% of the population of India as of 1<sup>st</sup> March 2011. The proportion of 13-19 years adolescents was 10.3% and half of them were females.<sup>3</sup>

There are very few studies on prevalence and pattern of menstrual morbidities among late adolescent female patients and their awareness about contraception in an urban area.<sup>4,5</sup>

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## MATERIALS AND METHODS

The present study was undertaken, got ethically approved and carried out as a prospective Observational Clinical Study in a Tertiary care center and Teaching Institute in Urban India. It was conducted from April 2013 to September 2013 (6 months).

### Selection and Description of Participants

Adolescent girls (13-19 years) attending gynecology and Adolescent Reproductive and Sexual Health (ARSH) outpatient department (OPD) were included in the study. Written informed consent was obtained from the study patients. Non-consenting and medico-legal cases were excluded from the study. The study population were from the locality of the urban area around the institute in Pune city.

### Technical Information

Detailed household information was taken in a pre-framed questionnaire. History based on, "Prasad scale"<sup>6</sup> about education, occupation, income (monthly) of their family was also obtained. Questions were asked by a resident doctor with prior formal training of counseling and questioning.

### Statistics

Chi-square test of significance was applied at necessary observations.

## RESULT

Of the total 120 cases, only 4 (3.3%) were of class 1 socioeconomic status as per Prasad scale (Table 1) and 84 (70%) were school/college going. As many as 22 (18.3%) were married and all claiming to be more than 18 years of age.

Only 39 out of 120 patients (32.6%) had normal hemoglobin levels (WHO criteria 12-14 g%) and 8(6.6%) out of 120 had severe anemia (Hb <7g%). One hundred and seven (89%) had knowledge of secondary sexual characteristics and menstruation. Asked independent of menstrual knowledge, 48 (40%) had an idea about contraception. Of these 48, (40) 10 got the concept from book and women care magazine, 8 from radio, 30 (62.5%) from Television.

## DISCUSSION

Our study to focus on these group individual was because the adolescent girls would be tomorrow's responsible citizens of India and subsequently forming the next generation as well.

Majority of subjects, i.e., 73.3% were belonging to 5-8 member families and lowest numbers of subjects were in the more than 8 member family. In such large families with low to moderate income, it needs specialized efforts by family individuals, doctors, social scientists, joint efforts of Government and Non-Government Organizations (NGO) to focus specifically on the adolescent girl child. Counseling was done in our set of patients and their families through

these ARSH OPD services for promoting adolescent girl child's overall development as an important family member.

Though this study does reveal the adolescent female literacy rate to be increased (70%), we as a nation still need to take efforts to make 100% of our adolescent girls literate. We carried out sessions of brainstorming for the girls and their family members and convinced them that, an educated adolescent girl in her future life will be a very good core member to her new upcoming family and would be definitely in a better position to guide the next generation regarding health and education because of her educational status and potential to support her family by earning.

In our study, maximum girls had menarche at 12 years of age as shown in Table 2. Datta (2013)<sup>2</sup> mentions that menarche may occur between 10 and 16 years, the peak time being 13 years. Recent data suggest that the mean age of menarche in Indian girls belonging to upper socioeconomic age group is 12.6 years.<sup>1</sup> Madhavan *et al.* (1965) mentions that the mean age of menarche for urban girls was lower than that for rural girls which might indicate a better socioeconomic and nutritional status at menarche and found that mean age at menarche was 12.76 years (urban) and 13.24 years (rural).<sup>7</sup> Contrary to this majority of our study subjects were from lower socioeconomic strata and poor nutritional status. The only possible explanation for the earlier menarcheal age of 12 years can be a better psychosexual maturity due to urban residential location.

Ministry of Health and Family Welfare (2004) in their booklet of Adolescent health Training for Health Worker recommended that cloth used during menstruation should be dried under sun and should be kept in clean bag during intermenstrual period which was not followed in present study due to lack of knowledge (Table 3 and Figure 1).<sup>8</sup> The hospital paramedical women staff gave them the information on this topic.

Regular cycles were found in 75 (62.5%) subjects and 40 (33.3%) were having irregular and heavy cycles

**Table 1: Socioeconomic status**

Socioeconomic status per capita/month	No. of cases n=120	Percentage
I (Rs 1809 and above)	4	3.3
II (Rs 904 - Rs 1808)	24	20.0
III (Rs 542 - Rs 903)	22	18.3
IV (Rs 271 - Rs 541)	54	45.0
V (Rs 270 and Less)	16	13.3

**Table 2: Age of attainment of menarche**

Age of attainment of menarche	No. of cases n=120	Percentage
11	8	6.7
12	41	34.2
13	34	28.3
14	31	25.8
15	1	0.8
Not attained menarche	5	4.2

(Table 4). Study on menstrual disorders in adolescent girls conducted by Goswami *et al.* (2005)<sup>9</sup> showed the incidence of irregular cycles as 23.1%. Incidence of irregular cycles in present study was higher as compared to other studies because maximum subjects in present study were below standard for weight and height for age; further pointing toward a possible health problem, and hence the need to have adolescent OPDs like ARSH to timely recognize, investigate health problems of these girls and help them for their future personal reproductive and familial health. Study patients were managed for these problems of irregular cycles in ARSH OPD and we strongly support this idea of ARSH OPDs in all governmental health organizations.

Majority of subjects having menorrhagia were below 16 years of age ( $P = 0.04$  significant) (Table 5). Anemia was leading cause for morbidity found in study subjects. Correction of menorrhagia and anemia keeps these future mother healthier and disease free so that they can carry a healthy pregnancy without any complications. Educational sessions and dietary advice were carried out on the consumption of foods like green leafy vegetables, jaggery, cereals like ragi, pulses, where possible meat & chicken in adequate quantity. Advice on consumption of vitamin C rich fruits to enhance iron absorption was given. Fortification of widely consumed foods with iron as a community strategy may be considered by policy makers. Regular de-worming of adolescents by mass medication programs (like school health program of mass de-worming) was found needed.

Premenstrual symptoms (PMS) were quite common (Table 6). Proper treatment and counseling of adolescent girls for PMS was done through ARSH OPD regarding cost effective methods like changes in lifestyle (avoidance of excessive tea/coffee, fast foods, importance of proper balanced diet, exercise, sleep habits, yoga, and meditation etc.).

Dysmenorrhea was the most common cause for school and college absenteeism so needs early and prompt management to increase their morbidity free life. Cases of Primary amenorrhea need early detection. This can be increased by improving knowledge of adolescent girls about secondary sexual characters and menstruation through

ARSH OPDs by information education and sensitive and confidential communication.

Majority 107 (89%) were having knowledge of secondary sexual characteristics and menstruation and 13 (11%) were not having knowledge (Table 7). Though adolescent girls were having awareness about secondary sexual characteristics and menstruation, emphasis was made on educating them about reproductive health physiology, prevention of sexually transmitted diseases and to make them aware about conception, which was found to be poor among them. Majority of married subjects who wanted to

**Table 3: Menstrual hygiene**

Menstrual hygiene	Number <i>n</i> =120	Percentage
Material used during menstrual period		
Cloth	81	67.5
Sanitary pad	34	28.3
Frequency of changing cloth/sanitary pad		
Once a day	25	21.73
Twice a day	55	47.82
Thrice a day	35	30.43
Not attained menarche	5	4

**Table 4: Menstrual regularity**

Menstrual regularity	No. of cases <i>n</i> =120	Percentage
Not attained menarche	5	4.2
Irregular	40	33.3
Regular	75	62.5

**Table 5: Menstrual morbidity**

Menstrual morbidity	No. of cases <i>n</i> =120	Percentage
Primary Amenorrhea	5	4.2
Menorrhagia	37	30.8
Dysmenorrhea	88	73.3
Scanty menses	24	20.0

Some patients had more than one complaint (morbidity)

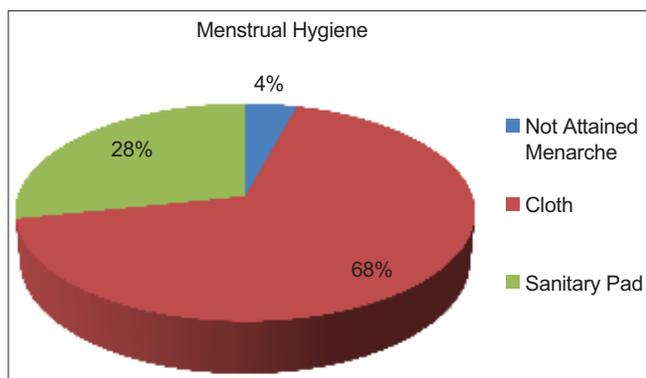
**Table 6: Premenstrual symptoms**

Premenstrual symptoms	No. of cases <i>n</i> =120	Percentage
Pain in Abdomen	103	85.8
Bodyache	37	30.8
Headache	9	7.5
Irritability	8	6.7

Few patients had overlapping symptoms

**Table 7: Correlation of menorrhagia and age**

Menorrhagia	Age group (years)		Chi-square df=1	<i>P</i>
	≤16	>16		
No-78	29	49	4.185	0.04 significant
Yes-37	22	15		
Total	51	64		



**Figure 1:** Menstrual hygiene

delay the conception were not using contraception. We gave them the information and knowledge on contraceptive services in the OPD. ARSH OPD is very important for adolescent sexual health and reproductive health to make them aware about methods of contraception to prevent unwanted and teenage pregnancies. Inter-sectorial coordination of ARSH and Family Planning OPDs was found mandatory by this study (Table 8).

A total of 116 (96.66%) subjects were having weight less than standard for age while 120 (100%) having height less than standard for age. Knowledge of healthy and balanced diet, inclusion of low cost but nutritional food items like green leafy vegetables, pulses and eggs in abundance was given, so as to improve the nutritional stores of the body. Need for consumption of milk in the teenage and other calcium-rich foods or supplementary medication of calcium was prescribed to them, to build the bone mass and to prevent osteoporosis in later life, after menopause.

Overall, prevalence of gynecological morbidities was 92.13% in this group of patients visiting the OPD, so emphasis should be given through different health programs to detect and treat morbidities at the earliest, to prevent future health problems.

## CONCLUSION

ARSH OPD services are needed at all women care centers, as this group of patients need special attention for their complaints. Focused care and counseling of these young patients would be a great investment for their and their families' future health and the society and nation as a large.

**Table 8: Knowledge of different methods of birth control and availability of OC pills among the 48 girls**

	No. of cases <i>n</i> =48	Percentage
Knowledge of methods of Birth control		
Condom	32	66.7
OC Pills	46	95.8
Cu-T	11	22.9
Tubectomy	4	83.3
Place of availability of OC pills		
Hospital	48	100
Chemist shop	48	100
Health worker	30	62.5

OC: Oral contraceptive

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## PEER REVIEW

Double-Blinded externally peer reviewed.

## CONFLICTS OF INTEREST

Nil.

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